

Interdependence in the Mormon Heartland:  
Mutual Irrigation Companies and Modernization  
in Utah's Wasatch Oasis, 1870-1930

by Thomas G. Alexander<sup>1</sup>

Between 1870 and 1930 mutual irrigation companies in Utah's Great Salt Lake drainage matured as they coped with the changes associated with a modernizing state. This condition contrasts with the development of these companies between 1847 and 1870 when they faced a different set of challenges as they dammed and diverted streams to furnish irrigation water to pioneer farmers. During the pioneering era, many companies performed admirably in constructing and operating irrigation works. Others failed, generally because they could not solve problems frequently encountered by pioneers in an unfamiliar land such as inadequate engineering skill, shortage of capital, unskilled labor, faulty environmental knowledge, and poor cooperation.<sup>1</sup>

Until 1852, most companies diverted water under customary systems. After 1852 they

---

<sup>1</sup>Thomas G. Alexander is Lemuel Hardison Redd, Jr. Professor of Western American History at Brigham Young University. The author thanks Alex Smith and Sharon Carver for help on the research for this manuscript.

This is a study of irrigation companies in the valleys of the Great Salt Lake drainage from 1870 to 1930. In this manuscript I have called the valleys stretching from the northern reaches of Mount Nebo in Utah County on the south through Cache Valley on the north: the Wasatch Oasis. This is not strictly accurate because the eastern portion of Cache Valley fronts on the Bear River Range. Nevertheless, for convenience, I have used the terms Wasatch Front, Wasatch Oasis, and Great Salt Lake Drainage interchangeably since I would argue that all of central and northern Utah constitutes an economic region with similar characteristics.

functioned under a territorial law that granted the county court, consisting of a probate judge and three selectmen, jurisdiction over streams in their county. The county court was the nineteenth century equivalent of the county governments that began to operate after Utah achieved statehood in 1896. After 1896, Utah county governments consisted either of a three member county commission or a mayor and county council.

From the 1870s in the most populous areas of the Great Salt Lake drainage to the first three decades after 1900 in less congested regions, the challenges these companies faced changed from those usually related to pioneering to those we associate with modern life.<sup>2</sup> After 1870, an increasingly large number of the companies incorporated under Utah's general incorporation acts, so that water users functioned both as members and as stockholders. Even after organizing as corporations, most continued to operate as mutual companies in which the stockholders were also the water users.<sup>3</sup>

By modern life, I mean only partly the definition of modernization that derives from the works of classical theorists such as Karl Marx, Max Weber, and Daniel Bell. Neither do I mean fully the modernization associated with commercial development outlined in Richard Brown's work<sup>4</sup> Rather, I take the term "modernization" to mean the set of changes historians associate with life during the Gilded Age, Progressive Era, and 1920s as the United States emerged into the complex urban and industrial society most people would recognize as modern today. Features we associate with the modernization of America during these years include economic development, especially extensive industrialization, urbanization, and political change, especially bureaucratization.<sup>5</sup>

Some of these changes seem clearly evident in Utah. They include the growth of manufacturing which companies in the Wasatch Oasis based on the processing of the products of extractive industries, especially of mines and farms. In concert with the rest of the United States, Utah's Wasatch Oasis witnessed the blooming of large businesses and corporations. Manufacturing and commerce expanded as did extensive occupational specialization, market

capitalism, and market agriculture. The region also experienced the introduction of transportation improvements which facilitated regional and national marketing such as the interstate railroad in the nineteenth century, motor transport and interurban electric and steam railways in early in the twentieth century, and air transportation during the 1920s.

Population growth and urbanization also characterize such changes in Utah. Statistically, the Beehive State as a whole urbanized at approximately the same rate as the United States. The Wasatch Front urbanized faster than any other region in the state. Moreover, as Utah's cities modernized they accelerated the installation of improvements such as paved streets, public transportation, parks, and water and sewage systems. City governments and private companies introduced amenities incident to modernization such as electricity, telephones, radios, typewriters, and garbage collection.

Most importantly, modernization in Utah included considerable social and cultural change. It clearly included the general decay of whatever isolation had previously existed.<sup>6</sup> Changes in Utah, and especially in the Wasatch Front, characteristic of this period clearly included accommodation to the business, social, environmental, and political practices of mainstream America.<sup>7</sup> In the late 19<sup>th</sup> and early 20<sup>th</sup> centuries Utahns in general and the stockholders in mutual irrigation companies in particular gradually gave up their religious and social exclusivity as they promoted business, political, and social relations with those of other faiths, or of none at all

Modernization on the Wasatch Front did not include some features scholars have classified as aspects of modernization. In the United States and especially along the Wasatch Front the changes clearly did not include secularization. Most businessmen and farmers on the Wasatch Front were active priesthood holders in the Church of Jesus Christ of Latter-day Saints. Moreover, late nineteenth and early twentieth century American modernization did not include the amenities we associate with the late 20<sup>th</sup> and early 21<sup>st</sup> centuries such as those ushered in by the introduction of the personal computer, the internet, and electronic data retrieval and transfer,

some of which, at least, we would consider post-modern because they may be seen as aspects of a service-oriented economy.<sup>8</sup>

Within this atmosphere of modernization, Utah's mutual irrigation companies flourished. As the irrigation companies constructed systems to deliver water to users, the Utah Legislature changed the laws under which they operated. In 1865, the legislature authorized the organization of irrigation districts. Passed twenty-two years before California's more famous Wright Act, the Utah law allowed the districts to tax users who benefitted from the water delivered by the system rather than all landowners in the district as the Wright Act did. Utah's legislature repealed the law in 1897, although in repealing the law, it allowed the existing districts to remain intact. In 1909 the legislature passed a new irrigation district act. Later legislatures amended the act in part to facilitate the construction of irrigation works by the United States Bureau of Reclamation (BOR).<sup>9</sup>

The legislature changed the law governing the appropriation and management of bodies of water in 1880 to vest exclusive authority over water matters in the county selectmen, whom the law designated as the county water commissioners.<sup>10</sup> The law authorized the selectmen to gauge streams and allocate water to various users. It also required them to conduct administrative rulings on water claims, although parties to the disputes could appeal the water commissioners' rulings to the district courts. The law also recognized primary appropriation rights to the extent of that portion of stream flow reasonably necessary to accomplish the purpose of the appropriation. Users secured such rights by seven years of beneficial use (a provision later reduced to five years). The law also acknowledged secondary rights, which were often called surplus or high water rights. These usually consisted of the right to use that portion of the stream flow in excess of the primary rights. Such flows generally ran in streams during the spring, during floods, or during years with abnormally high precipitation. Most important, the statute converted the ownership of water from a right attached to the land to a type of personal property that owners might sell or buy as they wished. Moreover, it also specifically authorized irrigation

or canal companies to incorporate and to levy assessments on owners' shares for operating expenses, maintenance, and improvements.

Between 1880 and 1896 county selectmen, and between 1896 and 1903, the county commissions continued to grant water rights, while state district court rulings determined the extent of such rights. In 1903 the Utah legislature vested the regulation of water rights in the Office of State Engineer, which it had established in 1897, and in the district courts. A modification of this law in 1919 gave the State Engineer the authority make investigations and to grant water rights, although the law retained the right of appeal to the courts.<sup>11</sup>

Within the growing body of statute law and its accompanying case law, Utah's mutual irrigation companies passed through the pioneering phase (1847-1880) and a phase of modernization (1870-1930). We can see the passage through a transitional period between these two phases in the story during the 1870s of what became one of the most successful mutual companies, the Provo Bench Canal and Irrigation Company.<sup>12</sup> Shortly after incorporating in 1871, shareholders heaped considerable criticism on the superintendent (a position some companies called watermaster), D. H. Kinsey, for his failure to deepen and enlarge the company's canal and to maintain the works that the company had constructed. Kinsey defended himself by arguing that conditions beyond his control had thwarted his efforts. The company diverted water from the Provo River to supply farmers in a section of Utah County west of Provo that residents would incorporate in 1919 as the city of Orem. The Provo River flows from the western slope of the Uinta Mountains through a number of high valleys on the eastern side of the Wasatch Mountains and through Provo Canyon into Utah Valley. In Utah Valley, the river empties into Utah Lake. Kinsey said that although he had contracted with Alexander F. McDonald to construct the new works, "nearly one half [of the company members] refused or neglected to pay" their taxes, and he could not pay McDonald for the partial work he had done. Because the company had also organized as an irrigation district under the 1865 law, it had the authority to tax the water users.

When Kinsey tried to enforce the tax law by selling the land of the delinquents, which he could do until an 1882 law made such taxes a lien against their water right or interest in the canal rather than against their real property, he failed. He found no buyers, in part, because the settlers had no clear titles to their land. The federal government had opened its Salt Lake City land office only two years before, and the General Land Office had not granted titles to most of the farmers.<sup>13</sup> While dealing unsuccessfully with delinquent taxpayers, in order to keep the project going, Kinsey had advanced more than \$6,000 of his own in money and supplies.<sup>14</sup>

The company faced similar problems in maintaining the existing works. In addition to refusing to pay their taxes, many of the water users also declined to contribute time to improve or maintain the canals. In what seems in retrospect a ridiculous effort to solve the problem of delinquent taxpayers and unwilling workers, the irrigation district trustees voted to levy additional taxes which Kinsey, of course, could not collect. In the absence of either money to pay for labor, supplies, or equipment, or the donated labor of the water users, the ditches had silted up, and the company could not furnish sufficient water to shareholders. Although the water-starved farmers shared the blame for Kinsey's failure to deliver the precious liquid, they nevertheless criticized him as their crops wilted. With his hands tied and the company in dire straits, Kinsey refused to accept reappointment as company superintendent.<sup>15</sup>

Overcoming these setbacks, by early 1872 the company managed to improve the canal and deliver adequate water. The company's remaining problems--such routine matters as repairing head-gates and graveling roads--seemed minuscule by comparison.<sup>16</sup> By 1876, the company had apparently developed practices to solve even these problems, and board meetings became sleep-inducing routines of reports and discussions.<sup>17</sup>

Later in the nineteenth century and in the early twentieth century, the company addressed modern rather than pioneering problems. In 1889, the company officers negotiated the purchase and incorporation into its system of the Lake Bottom Irrigation Company, a company that supplied water to farmers west of the Provo Bench near Utah Lake.<sup>18</sup>

As early as 1893 the company contemplated the possibility of entering into a suit with Provo City and with other companies to establish the portion of the Provo River owned by each of the users.<sup>19</sup> Delayed somewhat, proceedings in the suit, which determined the ownership of virtually all water flowing in the Provo River, began in 1914 in Utah's fourth judicial district court in Provo. Judge C. W. Morse, who presided in the case, issued the decree in the extremely complex suit on May 2, 1921. Morse's decree awarded the Provo Bench Canal and Irrigation Company Class A rights to Provo River water sufficient to irrigate nearly 4,333 acres of land.<sup>20</sup>

Disputes over the ownership of water erupted between other companies as well. Irrigation companies in southern Salt Lake County and northern Utah County entangled themselves in a number of controversies over Dry Creek, which flows from the southern slope of the Traverse Mountains in a southwesterly direction toward Utah Lake. At a meeting of the Board of Directors of the Draper Irrigation Company in July 1888, a report by Peter Garff declared that the Dry Creek Reservoir and Irrigation Company and the Flat Irrigation Company, which competed with each other and with the Draper Company for the water of Dry Creek had been taking more than their share. At the time, the Dry Creek company claimed 1/3 of the water, the Flat company 1/3, and the Draper company 1/2 the water. This, of course, added to more than the total flow of the creek, but negotiations in 1892 clarified this discrepancy. In the meantime, however, in order to maintain their rights, the directors of the Draper Company decided to hire a guard to make certain that parties representing the other companies did not alter division gates erected on the stream.<sup>21</sup>

Stationing the guard did not solve the distribution problem since by 1892 the Dry Creek company claimed 1/2 of Dry Creek for the entire irrigating season while the Draper company claimed 2/3 of the stream after July 20. Both sides hired attorneys, but instead of going to court as the Provo Bench company did, the Draper company offered to settle the matter by selling 1/6 of the flow to the Dry Creek Company for \$375.00. This left the Draper Company with 1/2 of the stream's flow after July 20.<sup>22</sup>

In spite of such disagreements, the companies cooperated in utilizing the stream. For instance, the Draper and Dry Creek companies shared the cost of maintaining a reservoir they had developed by enlarging and damming a small lake at the head of a fork of Dry Creek. In 1894, for instance, each company appropriated \$50.00 to deepen the reservoir and increase the height of the dam. After they had completed the work, the companies filed appropriation claims on the additional water their efforts had secured.<sup>23</sup>

The Draper company also worked out amicable arrangements with the Flat company on some matters. In August 1891, for instance, during a severe drought, M. Mikkelson and James Parker of the Flat company secured permission to use the Draper company's more convenient canals to convey water to keep their shareholders' corn and trees alive.<sup>24</sup>

Companies also faced internal problems in the division of water between their stockholders. In May 1889, one officer of the Draper Company, B. F. Terry, charged that someone had changed the head gates so that two-thirds of the flow from Dry Creek poured into the company's Middle Ditch. An equitable distribution would have allowed only sixteen inches through the five foot wide head gate.<sup>25</sup>

At times the companies had to change the point at which members diverted water from the system onto the shareholders' lands. Sometimes this required the company to switch water from one of its canals to another. In some cases, such changes led to discussions of the volume of water that should flow in a particular canal, often because members who had used a specific flow in the canal noticed that the volume had either diminished or increased. With a diminished flow, they sometimes found it difficult to irrigate the acreage they previously had watered. In 1889 a dispute occurred in the Draper Company because two of the users, Joshua Terry and L. H. Smith, had changed their water allocation from one ditch to another and J. M. Stewart had sold part of his water right to Walter J. Green. The latter sale required the company to change the water turns of ten users along ditch to accommodate the new user.<sup>26</sup>

Such problems as those connected with the distribution of water proved extremely serious

for large companies with complex systems. In 1877, for instance, stockholders in the Union and Jordan Ditch Company agreed to install gates they called “divide gates” that automatically allocated portions of the stream to the various units in the system.<sup>27</sup> The company operated a complex system consisting of four main ditches and two additional forks with five ditches on each. The system diverted water from Little Cottonwood Creek, which flowed down Little Cottonwood Canyon to the Jordan River Plain, to irrigate farms in parts of the area of Salt Lake County now included in the districts and cities of Union, Midvale, Murray, West Jordan, and Sandy. Managing this system required a watermaster (later renamed a superintendent) plus assistant watermasters on each of the main ditches and each of the forks.<sup>28</sup>

At times, in spite of the legal water rights that each appropriator owned under the 1880 law, some companies treated their systems as though the company, itself, owned the water and could allocate it according to the will of the stockholders. The Draper Company had, in effect, done this when it relinquished the right to part of its water to the Dry Creek Company in order to avoid the expense of a suit.

The records of the Union and Jordan Ditch company stockholders meetings indicate frequent discussions of individual water rights which led in a number of cases to the formal and explicit reallocation of water among users.<sup>29</sup> In 1893, the Union and Jordan stockholders undertook an extraordinary reallocation of water rights which completely ignored, apparently with impunity, the right of prior appropriation that Utah’s 1880 law most probably guaranteed to individual shareholders. In justifying such action, in a later dispute over water rights, William B. Bennett, a stockholder, pointed out that section 13 of the company’s bylaws said that whatever was done by a vote of the majority in a regular meeting was binding on the whole. What Bennett did not say was that the company had included the word “lawful” in section 13, and it seems exceedingly doubtful that a vote of the majority could negate an individual right granted by Utah’s 1880 prior appropriation law either by divesting a member of a water right or by taking a right from one shareholder and giving it to another.<sup>30</sup> Nevertheless, and quite significantly, the

stockholders functioned as though they had the prerogative to change the allocation of such rights within the company.

The details of this case are extremely significant. In a meeting on May 5, 1893, the company stockholders began discussing the needs of various users while considering a problem that had arisen because a portion of the system received too little water and another portion, too much. James Higgins told the stockholders that he had bought land from James Winchester, who in 1893 served as company president and who had previously served as watermaster. Higgins said that when he purchased the land he had neglected to purchase a water right. He said, however, that he had worked on the ditch for thirty years, presumably helping to build and repair irrigation works and to clean weed-choked ditches and laterals. Moreover, he had paid all the assessments levied by the company over that time.<sup>31</sup>

During the consideration of water distribution, Winchester, himself said that when the company had first established the system it had furnished him enough water for a farm of 125 acres. After the company had installed divide gates to allocate the water according to the established water rights, however, the system did not furnish enough water to mature his crops. He asked that the company allow him enough water for an additional 45 acres in addition to the 80 acres already sufficiently irrigated. After Winchester had spoken, Albert Glover said that he wanted the company to furnish enough additional water to irrigate 4 more acres.

In resolving the water allocation problems, the stockholders agreed to several compromises. By vote of the stockholders, the company refused to approve Glover's request. Nevertheless, Levi Naylor agreed to transfer enough water to irrigate 2 acres from the claim of his father, William Naylor, to the ditch serving Glover's fields because his father's land had become "too wet" and did not need as much water as it received. This solved at least part of Albert Glover's problem. Then on a motion of John Oborn, and after a heated discussion of the estimates of the system of water division, the stockholders agreed, in a very controversial vote, to furnish Higgins with water for an additional 15 acres and to give Winchester water for an

additional 45 acres.<sup>32</sup>

In the past, the Union and Jordan Company had reallocated the water supply on a number of occasion, in each case recording the number of shares held by each stockholder. Each share furnished enough water to irrigate a quarter acre. The company had made one such reallocation in 1884. The company had made an interim measurement, and in 1895, the question of altering the divide gates again arose in the stockholder's meeting. This discussion followed from a meeting of February 24, 1894 in which the stockholders voted to refuse to accept a water allocation proposed by a committee established for the purpose because the majority considered it contrary to the legal division of water within the system.<sup>33</sup>

Under the law, Albert Glover pointed out, the Salt Lake County selectmen, as water commissioners, could have settled such disputes, but they had declined to do so. After listening to the discussion for a time, William Bennett urged the members to arrive at an agreement over the allocation of water. If they did not, he predicted that they would have "a costly affair on our hands," presumably because the matter would end up in court. Moreover, he predicted, erroneously as it proved, that under the new state constitution the water commissioners would have the power to take "our" water and divide it as they wished. This explanation did not satisfy all of those present, and Daniel Jones pointed out that the stockholders had unlawfully granted water rights at a previous meeting. Presumably he meant the meeting of May 5, 1893, which gave additional water to Higgins and Winchester. He also said that such reallocations had caused difficulty down to the present time.<sup>34</sup>

At first Glover argued that those stockholders with older water rights, presumably under the 1880 law, ought to withdraw from the company and incorporate a new one. Nevertheless, probably in the interest of community unity, even though his motion had some support, he withdrew it. Glover then moved that the company set the gates to correspond with the current acreage allotment, which incorporated, of course, such changes as those made in the claims of Winchester and Higgins. The motion carried by a vote of 23 to 10. Following that vote, C.

Sharp tried to get the company to reset the divide gates to the 1884 measurement. That motion failed to gain a majority.

Perhaps in part because of the questionable legality of such measures as reallocating water rights, and most probably because of changing conditions caused by modernization, the company incorporated on June 20, 1895. Barlow Ferguson, a Salt Lake City attorney, served as notary public at the meeting. As part of the 1895 incorporation, each of the Union and Jordan Ditch Company stockholders signed a deed of trust conveying their rights and title to water in Little Cottonwood Creek to the newly organized company called the Union and Jordan Irrigation Company in return for which they received stock in the company equal to the shares of water the company's books said they owned. They also signed articles of incorporation and elected a board of directors. After they adjourned, John Oborn and Henry Monteer, a justice of the peace, contacted thirty of the members who had not attended the meeting and secured their signatures on the articles of incorporation.<sup>35</sup>

In addition to allowing the company to settle such problems as extra-legal water reallocations, incorporation helped the members address changes caused by the modernization of Utah's economy. Some of the new conditions resulted from the expansion of manufacturing, others resulted from the installation of city utilities, and many resulted from the increasing complexity of water distribution.

Market agriculture spread through the Wasatch Front, especially with the growth of cities and the demand for vegetables and fruits to feed the urban population. Most important were organization and growth of the Utah-Idaho and Amalgamated Sugar Companies. The companies constructed and operated factories in Utah, Salt Lake, Weber, Box Elder, and Cache Counties, and they contracted with farmers to supply sugar beets for the factories. To take advantage of the market for sugar beets, a private company headed by J. R. Bothwell built an irrigation system to divert water from the Bear River to water farms in Box Elder County. The Bothwell company failed, and it sold its system to the Utah-Idaho Sugar Company. With that failure, most Wasatch

Front irrigation companies remained mutual companies.<sup>36</sup> A number of farmers in central Salt Lake County began growing sugar beets during the 1890s, and indeed, the high school at West Jordan, a district partly served by the Union and Jordan company, adopted the name “Beetdiggers” as their mascot.

During the 1870s and 80s a number of corporations had built smelters in Murray, Midvale, and Sandy. The smelters required extraordinary volumes of water to facilitate the recovery and refining of various metals. By 1895 the Union and Jordan company had contracted with the Mingo Smelter to furnish one-tenth of the flow of Little Cottonwood Creek at its lowest stage.<sup>37</sup>

In 1896 the company’s superintendent (watermaster) agreed to rent additional water to the Mingo Smelter during a period of reduced water flow. This action may have interfered with the water rights of some of the members, and some objected. Superintendent Carl O. A. Liljablad, however, explained that he had agreed to rent the water to the company in order to prevent the smelter from shutting down and forcing workers from their jobs. Some shareholders groused over Liljablad’s action, but they accepted it<sup>38</sup>

Not satisfied with renting water, at least one of the largest smelters purchased water rights of its own. By 1916, the United States Mining Company, with 420 shares, had become the single largest stockholder in the Union and Jordan Irrigation Company. Edgar M. Ledyard, a company officer, represented the company and voted its shares at Union and Jordan stockholder’s meetings. At that time, each share entitled an owner to sufficient water to irrigate a quarter acre of land. By contrast with the large block the smelter owned, Albert Glover with 223 shares owned the largest number of shares of any farmer. Operating small farms characteristic of irrigated farms along the Wasatch Front, most farmers owned fewer than 100 shares.<sup>39</sup>

Urbanization impacted the company as well. As early as February 1903, the Union and Jordan Irrigation Company had entered into what eventually became a series of complex exchange agreements with other companies and with Salt Lake and Sandy cities.<sup>40</sup> A decree of

1901 and subsequent supplemental decrees by Judge C. W. Morse, then sitting in the third judicial district in Salt Lake County, had apportioned the water of the Jordan River which empties from Utah Lake in Utah County and flows in a northerly direction through Salt Lake County into Great Salt Lake.<sup>41</sup> The decree awarded to Salt Lake City and to four canal companies the bulk of Utah Lake water flowing in the Jordan River.

Most important, the decree left the city and the canal companies free to exchange water with or to sell water to other companies or individuals. The East Jordan Irrigation Company, for instance, sold water and shares in its canal to companies like the Union and Jordan. Salt Lake City negotiated exchange agreements with the Union and Jordan and other companies to secure culinary quality water from Little Cottonwood and other Wasatch Front canyons in return for lower quality water suitable for irrigation that flowed from Utah Lake through the Jordan River. In October 1905, for instance, the Union and Jordan approved an exchange of Little Cottonwood Creek water for Salt Lake City's canal water. As an inducement, Salt Lake City offered the company 25 percent more water than the company transferred to the city plus a bonus of \$1,500 in cash.<sup>42</sup>

As urban areas modernized during the Progressive Era, a number of smaller cities followed the lead of their larger neighbors in installing culinary water and sewage systems. In 1912 and 1914, the Union and Jordan company agreed to exchange Little Cottonwood water with Sandy and to accept canal water in return so the city could install a culinary water system. Following Salt Lake City's example, Sandy offered the company 25 percent more water than the city received in the exchange.<sup>43</sup>

By 1916, in addition to selling water to Sandy, the Union and Jordan Irrigation Company had itself entered the culinary water business. The company worked out arrangements with the cities of Sandy, Murray, and Midvale and the district of Union to cooperate in or secure franchises for installing such systems.<sup>44</sup> Between July and October 1917, the company's directors agreed upon the fees it would charge users for extending the company's culinary water

system to their property and upon yearly rates for customers. It later installed water meters in customers' yards.

As companies such as the Union and Jordan diversified their operations, their affairs became increasingly complex. Purchase agreements transferred stock in the East Jordan Irrigation Company to the Union and Jordan company which the Union and Jordan's president voted at the East Jordan company's annual meeting.<sup>45</sup> In 1915, the Union and Jordan company sold additional Little Cottonwood water to Sandy, and it purchased canal water from Salt Lake City. In order to settle accounts in the time between expenditures and receipts, the company officers borrowed money from local banks.<sup>46</sup>

Complexity led the Union and Jordan company into agreements that increased its entanglements with other companies. Other appropriators such as the Little Cottonwood Irrigation Company and Sandy City had asserted claims to portions of the flow of Little Cottonwood Creek. Such adverse claims led the company to hire attorneys to resolve the disputes.<sup>47</sup> After years of struggling to remain independent, and after collaborating, however reluctantly, with the Little Cottonwood Irrigation Company in the construction of a reservoir and canal, in 1918 Union and Jordan agreed to merge with the Little Cottonwood company by purchasing some of its shares.<sup>48</sup>

Thus, by the 1920s, in effect, the Union and Jordan Irrigation Company, in addition to functioning as an irrigation and culinary water supply company, had become a holding company. It owned and voted shares in such firms as the East Jordan Irrigation Company and the Little Cottonwood Irrigation Company.

As a consequence of this increasing complexity, the substance of the company's operations changed as well. During the late 19<sup>th</sup> and early 20<sup>th</sup> centuries, the Union and Jordan's most important meetings had been the company's stockholder's meetings. Members met together and contended with each other over such matters as the regulation of divide gates, the volume of water this or that shareholder should receive, the amount to be paid or credited for

labor on the company's ditches, and levies charged against each stockholder's shares. At the same time, prominent stockholders vied with one another for election to the board of directors, as they contended over the shaping of company policy and management.

By the early 1920s, the relationship between the board and the stockholders had changed substantially. With the exception of infrequent complaints over not receiving enough water, stockholders seem to have lost interest in the day-to-day operation of the company, and they increasingly left management to the directors. Clearly, the company's operations had become so complex that most shareholders seem to have lacked the time or expertise to fully understand its affairs. At meetings, instead of debating and suggesting courses of action, members became increasingly content simply to ratify the decisions of the board. Members also regularly reelected the current officers, so the membership of the board of directors tended to remain constant. A group of men who understood the operations of the company tended to monopolize the positions, and for the first time at the biennial meeting of February 27, 1922, the stockholders reelected the sitting board by acclamation.<sup>49</sup>

Just as modernization changed the form and substance of the Union and Jordan Irrigation Company's operations, for some companies modernization presented challenges which led stockholders to make costly choices.<sup>50</sup> The stockholders in at least one of these mutual companies heaped an almost unbearable financial burden upon themselves as they tried to apply pioneering self-help techniques to the construction of a modern, complex, and sophisticated irrigation system. On July 11, 1898, farmers in the towns of Trenton, Amalga, Cornish, and Newton, Utah and Weston, Idaho incorporated the West Cache Irrigation Company to supply water from the Bear River and a small tributary, Deep Creek, to nearly 15,000 acres in western Cache Valley.

A significant interstate stream, the Bear River rises on the northern slope of Utah's Uinta Mountains. It collects water from tributaries as it flows northward through Utah and western Wyoming before looping into eastern Idaho north of Bear Lake. In Idaho, the river curves in a

westerly direction before bending south to flow into Utah through northern Cache Valley. It exits Cache Valley through a low divide west of Newton. From there it flows in a generally southerly direction along the Great Salt Lake Plain into the lake.

The West Cache company stockholders agreed to finance and engineer the irrigation works like a modern corporation. Hiring two engineers from Ogden, the company floated \$40,000 in twenty year bonds through the Utah Mortgage and Loan Corporation of Logan. Initial estimates predicted that the canal system would cost about \$50,000 to construct. Taking a decision they undoubtedly considered rational at the time, when Utah Construction Company of Ogden offered to construct the system for \$80,000, the officers decided that they could save money by building it themselves.

A company organized by the Eccles and Wattis families, Utah Construction later became one of the six companies the BOR hired to construct Hoover Dam. The company achieved considerable success, which continued after it moved its headquarters to San Francisco and adopted the name Utah International.<sup>51</sup>

With local labor and less skilled supervision, however, the West Cache company's construction costs and debt mounted. Borrowing another \$20,000 in 1900, the West Cache company passed through successive reorganizations in 1910, 1912, and 1923 as it continued to amass additional debt. When finally completed, the main canal cost \$267,000, more than three and a third times Utah Construction's bid. Laterals and other works cost an additional \$250,000. Debt plagued the company and its shareholders until by 1937 its principal stockholder was the Federal Land Bank of Berkeley, California. The land bank amassed these shares as many of the West Cache farmers lost their stock through debt foreclosure during the Great Depression.

The complexity of the operations of these mutual companies grew as the Bureau of Reclamation (BOR), extended its operations to Utah. As the single project constructed in Utah prior to 1930, the BOR dammed the Strawberry River.<sup>52</sup> The Strawberry River gathers water from the eastern slope of the Wasatch Mountains in Wasatch County. From Wasatch County,

Strawberry River water flows through the Duchesne and Uinta Rivers into the Green River. The BOR project dammed the upper Strawberry River to store water in Strawberry Reservoir and to divert it from the Colorado Plateau to the Great Basin. From the reservoir, the system diverts water into a tunnel drilled through the Wasatch Mountains to Sixth Water Creek, a tributary of Diamond Fork. From Diamond Fork, the water flows into the Spanish Fork River from which users divert it to irrigate farms principally in Southern Utah County. The Spanish Fork River originates in a number of creeks and forks near the Utah-Wasatch County line in central Utah, and flows westward through Spanish Fork Canyon and the Utah Lake Plain to Utah Lake.

Construction of the project began in 1906, and the BOR began delivering water to part of the project in 1916. The project served additional users, as the BOR constructed irrigation works further south in Utah and Juab Counties. As part of the construction agreement, the water users who benefitted from Strawberry Valley water signed contracts to repay the federal government for the cost of construction.

Like many other farmers in Southern Utah Valley, some of the shareholders in the Salem Irrigation and Canal Company contracted for Strawberry Reservoir water. Incorporated originally in 1878 in Salem, a small town in Southern Utah County, the company reincorporated in 1903. The company diverted water from the Spanish Fork River to irrigate farms in Payson and Salem.<sup>53</sup>

During the early 20<sup>th</sup> century, the Salem Company officers spent much of their time addressing routine matters. These included cleaning ditches and laterals, determining charges to stockholders for operating the system, considering claims for damages caused by the overflow of irrigation ditches, installing “measuring gates” to regulate the flow of water to various members, constructing new irrigation works, and diverting water through their canals for another company.<sup>54</sup>

After construction on the Strawberry Valley Project began, however, the company shareholders struggled with the means of acquiring new water supplies while maintaining their

independence. Like shareholders in other mutual companies that relied in the Spanish Fork River in southern Utah County, many of the members of the Salem company did not have sufficient water for adequate irrigation throughout the growing season. Unlike the Bear River or Provo River, the Spanish Fork River drains a relatively small area, and its flow often fails late in the summer. For that reason, many of the shareholders wanted to secure additional water from the Strawberry Valley Project. As early as 1906, stockholders of the Salem company thought they might have to dissolve their corporation and affiliate with the Strawberry Water Users Association in order to enjoy the benefits of the Strawberry Valley Project.<sup>55</sup> They resisted this alternative, though at least by 1908 they had appointed a member to serve on the Strawberry Water Users Association board.<sup>56</sup>

During the project construction, the relationship between the Salem Company and the BOR seemed quite cordial. In 1908, for instance, the BOR worked out an arrangement to close down the company's canals in rotation so it could install gates, flumes and various structures at its Spanish Fork power plant. Moreover, the company accepted a BOR's proposal to install "rating flumes" to measure the amount of water flowing into the Salem Company's system.<sup>57</sup>

As the project neared completion, the company sought to work out an arrangement to secure water to augment its deficient supply. The Salem Company tried at first to purchase water, but J. L. Lytel, the project's supervising engineer, told them that the law did not allow the BOR to sell.<sup>58</sup> In 1919, a committee appointed by the Salem Company consisting of Eli F. Taylor, C. E. Loose, and N. C. Christensen recommended that the company dissolve and reorganize as an irrigation district. The company went as far as platting the area for an irrigation district, but though company records are somewhat unclear, it appears as though they did not actually organize the district or dissolve the corporation.<sup>59</sup>

Instead, individual members contracted with the BOR for water. In doing so, those who purchased Strawberry water assumed the usual obligations under the BOR repayment contract.<sup>60</sup> Since the Strawberry water users also watered their crops with Salem company water, the

company diverted the BOR water through its canal system to supply those shareholders who contracted for the additional water. The Salem Company also authorized those shareholders who owned Strawberry water to appoint a representative to serve on the board of the Strawberry Water Users Association.<sup>61</sup>

On a number of occasions, the Strawberry water user members of the Salem Irrigation Company met separately to coordinate their interests. In such meetings E. E. Beddoes, president of the Salem Irrigation Company presided. While meeting together, they negotiated such matters as when they would ask the BOR would turn Strawberry water into their system.<sup>62</sup>

Since both the BOR and the Salem Irrigation Company owned water in the Spanish Fork River, they and the other companies that drew on that watercourse had to coordinate their activities. In 1921, for instance, the BOR worked out an agreement with the Salem company and the Spanish Fork South Irrigation Company to exchange flood water which flowed early in the year for water that flowed later in the season and to purchase and operate a radial water gate near the BOR power plant. In 1929, the Salem Company and other companies decided not to protest when the BOR filed to appropriate water to generate electricity that flowed during the winter from Cold Springs, even though they might have had a legitimate right to the water themselves.<sup>63</sup>

Although the companies could not buy water from the BOR for delivery over a long period of time, at some times of short supply the companies actually did rent Strawberry water. In 1922 the Salem Irrigation Company, the Spanish Fork South Irrigation Company, the Spanish Fork East Bench Irrigation Company, and the Lakeshore Irrigation Company contracted with the BOR to rent additional water.<sup>64</sup> In 1924, because of a drought the Salem Irrigation Company purchased more than 700 acre feet of surplus water from the BOR.<sup>65</sup> Again in 1928 the company rented 100 acre feet of water.<sup>66</sup>

The delivery of Strawberry water guaranteed Southern Utah County farmers a generally reliable supply for the entire growing season. With the adequate water, farmers in the Salem Irrigation Company like others in Southern Utah County became increasingly secure in market

agriculture. The Utah-Idaho Sugar Company had previously constructed a plant at Payson. With the additional water, the company installed a larger plant at Spanish Fork, and in 1918 another company constructed a plant at Springville. In the 1906 season, farmers had planted only 1,900 acres of sugar beets in southern Utah County. With the stable water supply, in 1919 farmers in the same region planted 14,000 acres of beets. Increasingly drawn into a mixed agricultural-manufacturing economy, many of the farmers grew beets in the summer, harvested them in the fall, worked at one of the factories during the winter, and fed their livestock, in part, with beet pulp. In addition to sugar beets, the reliable supply of water facilitated the planting, harvesting, and packing of truck crops and fruit in Southern Utah County, a development that took place elsewhere in the Wasatch Oasis as well.<sup>67</sup>

Clearly conditions in Southern Utah Valley had changed enormously between 1870 and 1930 as they had throughout the entire Great Salt Lake drainage. As conditions changed, the mutual irrigation companies of the Wasatch Oasis had undergone enormous changes as well. Drawn into an increasingly complex society and economy, the companies modernized with conservative speed to take advantage of new conditions. The most radical changes undoubtedly took place in the operations of the Union and Jordan Ditch Company which had become fully involved in smelter operations and in installing urban culinary water systems in central Salt Lake County. By the early twentieth century, the company had become not only an operating company, but also a holding company, owning shares in other companies. Firms like the Union and Jordan, the Draper, the Dry Creek, and the Salem companies found it expedient to exchange water and to work together in the delivery of water and the construction of irrigation works. A number like the Provo Bench Company and canal companies in Salt Lake County engaged in suits to confirm their rights to the appropriation of water from larger streams with heavy demands like the Provo and Jordan Rivers. .

At the same time, the companies bore the costs of modernization. Stockholders in the West Cache Canal Company mired themselves in almost unimaginable debt in part because they

miscalculated the cost of constructing their system. Some appropriators undoubtedly lost water rights because they acquiesced in decisions made in the companies. Others gained such rights.

As conditions changed, the companies became more interdependent. The Union and Jordan mortgaged its independence by buying stock in other companies and engaging in exchange agreements with Salt Lake City and Sandy. Increasingly, companies in Southern Utah County like the Salem Irrigation & Canal Company became involved in affairs far beyond the Wasatch Front. The BOR, which, after the passage of the Newlands Act constructed irrigation works throughout the west, constructed the Strawberry Valley project. Shareholders in the Salem Company who had previously suffered during the season for lack of water, now had sufficient water for extensive commercial agricultural operations. As the price for an assured water supply, members of the company and at times the company itself entered into cooperative and rental agreements that amplified their interdependence.

Perhaps most significant were the compromises that irrigation company stockholders made in order to maintain harmony in their organizations and to deliver water to those who needed it. Watermaster Carl O. A. Liljablad rented water that belonged to someone else to the Mingo Smelter. Significantly, although stockholders in the Union and Jordan Company like Albert Glover and C. Sharp, who apparently lost water, and James Higgins and James Winchester who got new supplies, all agreed to abide by the vote of the majority. Daniel Jones was undoubtedly right in his belief that the company had acted illegally by reallocating the water even by majority vote. Stock in a mutual water company represented the right to use a specific volume of water for a specified time. The water, however, belonged to individual stockholders under the 1880 law. Water owners might sell or transfer their rights, but such rights were not infinitely convertible. The companies with the shareholders' permission might use the water for generating electricity, concentrating or smelting lead, irrigating subsistence crops, or irrigating crops for the market. Although owners of such rights could hypothecate their stock as collateral for loans, it seems unlikely that stockholders of one of the Wasatch Front's mutual water

company would find themselves disposed do so in order to finance ventures outside the region.

Thus, these mutual companies operated in an increasingly complex, market oriented, and rapidly urbanizing environment. Whether they grew sugar beets in West Jordan, Amalga, or Salem; fruit trees in Payson or Orem; or truck crops in Union or Sandy, most depended upon markets for the sale of the products of their farms. Urbanization and industrialization led companies to divert their water for smelting, to exchange water for municipal uses, and to deliver it in pipes urban consumers. Most significantly, like human beings everywhere they adapted and survived under rapidly changing conditions.

Clearly sixty years of modernization had wrought enormous changes on the mutual irrigation companies of the Wasatch Front. These companies could no longer consider themselves independent of the interests of those who lived around them, if, indeed, they ever were. An increasingly industrial, commercial, and urbanized Wasatch Front had impacted the lives of these people far beyond what they could have dreamed in 1870. As farmers and business people they depended upon each other, on government agencies, and on markets for the commodities and amenities from farms, smelters, and culinary systems that the water they had appropriated helped to provide.

## Endnotes

<sup>1</sup>For a consideration of these matters in the period between 1847 and 1880 see Thomas G. Alexander, "Irrigating the Mormon Heartland: The Operation of the Irrigation Companies in Wasatch Oasis Communities, 1847-1880" (Unpublished paper delivered to a symposium on Rural and Water History in Reno, Nevada, June 2, 2001), copy in the author's possession. The best history of irrigation in Utah is George Thomas, The Development of Institutions Under Irrigation: With Special Reference to Early Utah Conditions The Rural Science Series, ed. L. H. Bailey (New York: Macmillan, 1902). The major studies of the development of irrigated agriculture in Utah are: John Wesley Powell, Lands of the Arid Region of the United States with a More Detailed Account of the Lands of Utah 2nd ed. (Washington, D. C.: GPO, 1879); Idem. "Institutions for the Arid Lands," Century 40 (May 1890): 111-16; Charles Hillman Brough, Irrigation in Utah Johns Hopkins University Studies in Historical and Political Science, Extra Vol. 19, ed. Herbert B. Adams (Baltimore: Johns Hopkins, 1898); George Thomas, The Development of Institutions Under Irrigation; Wells A. Hutchins, Mutual Irrigation Companies in Utah, Bulletin 199, (Logan, UT: Utah Agricultural Experiment Station, 1927); George L. Strebel, "Irrigation as a Factor in Western History, 1847-1890," (Ph. D. Dissertation, University of California, Berkeley, 1965); Thomas G. Alexander, "John Wesley Powell, the Irrigation Survey, and the Inauguration of the Second Phase of Irrigation Development in Utah," Utah Historical Quarterly 37 (Spring 1969): 190-206; Leonard J. Arrington and Dean May, "'A Different Mode of Life:' Irrigation and Society in Nineteenth-Century Utah," Agricultural History 49 (January 1975): 3-20; George D. Clyde, "History of Irrigation in Utah," Utah Historical Quarterly 27 (January 1959): 27-36; A. F. Doremus, "Irrigation in Utah," in Official Proceedings of the Eleventh National Irrigation Congress Held at Ogden, Utah, September 15-18, 1903 (Ogden, Utah 1904), 269-72; Leonard J. Arrington, Great Basin Kingdom: An Economic History of the Latter-day Saints, 1830-1900 (Cambridge, MA: Harvard University Press, 1958); Robert

C. Dunbar, Forging New Rights in Western Waters (Lincoln: University of Nebraska Press, 1983); William Ellsworth Smythe, The Conquest of Arid America (New York: Macmillan, 1900); Donald Worster, Rivers of Empire: Water, Aridity, and the Growth of the American West (New York: Pantheon Books, 1985); and Donald J. Pisani, To Reclaim a Divided West: Water, Law, and Public Policy, 1848-1902 (Albuquerque: University of New Mexico Press, 1992).

<sup>2</sup>I am using the terms “modern” and “modernization” here in a slightly different sense than the sociological term “modernization.” For the literature on this subject see: Richard D. Brown, Modernization: the Transformation of American Life, 1600-1865 (New York: Hill and Wang, 1976) which is the classic study of modernization in the United States; Ronald Inglehart, Modernization and Postmodernization: Cultural, Economic, and Political Change in 43 Societies (Princeton: Princeton University Press, 1997); and Robert H. Wiebe, The Search for Order, 1877-1920 (New York: Hill and Wang, 1967). On conditions in Utah see Leonard J. Arrington and Thomas G. Alexander, A Dependent Commonwealth: Utah’s Economy from Statehood to the Great Depression ed. Dean L. May, Charles Redd Monographs in Western History, No. 4 (Provo, UT: Brigham Young University Press, 1974).

<sup>3</sup>Hutchins, Mutual Irrigation Companies in Utah.

<sup>4</sup>See: Karl Marx, Das Kapital: A Critique of Political Economy ed. Frederick Engels; condensed by Serge L. Levinsky (Washington, D. C.: Regnery Gateway, 1996); Max Weber, From Max Weber: Essays in Sociology ed. H. H. Gerth and C. Wright Mills (New York: Oxford, 1968); *idem.*, The Protestant Ethic and the Spirit of Capitalism ed Talcott Parsons, intro by Anthony Giddens (London: HarperCollins, 1991); Daniel Bell, The Cultural Contradictions of Capitalism (New York: Basic Books, 1967); *idem.*, The Coming of Post-industrial Society: A Venture in Social Forecasting (New York: Basic Books, 1973) See also Brown, Modernization.

<sup>5</sup>Inglehart, Modernization and Postmodernization, 5.

<sup>6</sup>Readers should understand that historians tend to dispute the question of isolation in Utah during the 19<sup>th</sup> century. My own view is that most have tended to overemphasize the level of

isolation by dating the decline of isolation with the coming of the railroad. Before the railroad came, Utah lay on the principal overland wagon and stagecoach routes, and numerous people passed through and visited the territory, especially the Wasatch Front area well before the railroad came in 1869.

<sup>7</sup>On this point see Thomas G. Alexander, "Stewardship and Enterprise: The LDS Church and Wasatch Oasis Environment, 1847-1930," Western Historical Quarterly 25 (Autumn, 1994): 340-364.

<sup>8</sup>It goes without saying that it also excludes other aspects of postmodernism such as the concept that virtually all ideas are culturally constructed. See Ingelhart, Modernization and Postmodernization, 12-14.

<sup>9</sup>Thomas, Development of Institutions, 117-137. On the Wright Act see Pisani, To Reclaim a Divided West, 103-04. In this paper I will use the term Bureau of Reclamation (BOR) even though the organization was first named the United States Reclamation Service (USRS).

<sup>10</sup>For the substance of the 1880 act see Thomas, Development of Institutions, 138-145.

<sup>11</sup>Thomas, Development of Institutions, 193-202, 274-285.

<sup>12</sup>Minutes, 21 August 1871, Provo Bench Canal and Irrigation Company Records, 1863-1976, Utah History Information Center, Utah State Historical Society, Salt Lake City, UT. (Hereinafter: USHS)

<sup>13</sup>On the opening of a land office in Utah see Thomas G. Alexander, A Clash of Interests: Interior Department and Mountain West, 1863-1896 (Provo, UT: Brigham Young University Press, 1977), 26-27 and Thomas, Development of Institutions, 40.

<sup>14</sup>D. H. Kinsey to Board of Trustees of the Provo Bench Company, 11 August 1871, Provo Bench Company Collection, USHS. A law of 1882 changed the irrigation district act to make company taxes a claim against the water right and the interest of the taxpayer in the canal rather than against the real property. Hutchins, Mutual Irrigation Companies in Utah, 20.

<sup>15</sup>Kinsey to Board, August 11, 1871, Provo Bench Company Collection, USHS.

<sup>16</sup>Board Minutes, April 19, 1872, Provo Bench Canal and Irrigation Company Collection, USHS.

<sup>17</sup>Board Minutes, April 15, 1876, Provo Bench Canal and Irrigation Company Collection, USHS.

<sup>18</sup>Minutes of Meetings of the Trustees of the Provo Bench Canal and Irrigation Company, May 31, June 25, 1889, Provo Bench Canal and Irrigation Company Collection, USHS.

<sup>19</sup>Minutes of the Meetings of Trustees of the Provo Bench Canal and Irrigation Company, October 11, 1893, Provo Bench Canal and Irrigation Company Collection, USHS.

<sup>20</sup>Provo Reservoir Company v. Provo City, et. al. Civil Suit No. 2888 (May 2, 1921), Copy in the State of Utah Water Rights Records, on line at <http://nrwrt1.nr.state.ut.us/adjdinfo/decrinfo/provo.htm>.

<sup>21</sup>Minutes of the Meeting of the Board of Directors, July 7, 1888, Draper Irrigation Company Papers, USHS.

<sup>22</sup>Minutes of Joint Meeting of the Draper Irrigation Co. and the Dry Creek Reservoir and Irrigation Co., February 20, 1893, Draper Irrigation Company Papers, USHS.

<sup>23</sup>Joint Meetings of the Directors of the Draper Irrigation Company and the Dry Creek Reservoir & Irrigation Company, August 20, August 24, September 14, 1894, Draper Irrigation Company Papers, USHS.

<sup>24</sup>Minutes of Draper Irrigation Company Meeting, August 10, 1891, Draper Irrigation Company Papers, USHS.

<sup>25</sup>Minutes of Draper Irrigation Company Director's Meeting, May 7, 1889, Drapar Irrigation Company Papers, USHS.

<sup>26</sup>Minutes of Director's Meeting, May 7, 1889, Draper Irrigation Company Papers, USHS.

<sup>27</sup>"Record of the Union and Jordan Irrigation Ditch, James Winchester, Head Water Master, 1877" (hereinafter Union and Jordan, 1877) Stockholders Meeting, Union and Jordan Irrigation Ditch Company, 1877, pp. 13-14, Union and Jordan Irrigation Ditch Company Records

(hereinafter Union and Jordan Company Records), Archives Department, Merrill Library, Utah State University, Logan, UT (hereinafter Archives, USU) Note: Although the book is labeled "1877" it actually contains minutes of the stockholder's meetings from 1877 through 1895.

<sup>28</sup>Rules and Regulations of the Union and Jordan Irrigating Ditch, 1877, Union and Jordan, 1877, Union and Jordan Company Records, Archives, USU.

<sup>29</sup>For instance: Stockholder's Meeting of March 18, 22, 29, 1895, Union and Jordan 1877, Union and Jordan Company Records, USU

<sup>30</sup>Stockholders meeting of March 18, 1895, p. 25, Union and Jordan, 1877, Union and Jordan Company Records, Archives, USU.

<sup>31</sup>Stockholders Meeting May 5, 1893, pp. 18-19, Union and Jordan, 1877, Union and Jordan Company Records, Archives, USU.

<sup>32</sup>Stockholders Meeting, May 5, 1893, p. 19, Union and Jordan, 1877, Union and Jordan Company Records, Archives, USU.

<sup>33</sup>Stockholder's meeting of February 24, 1894, p. 20 and March 29, 1895, pp. 28-29, Union and Jordan, 1877, Union and Jordan Company Records, Archives, USU.

<sup>34</sup>Stockholders Meeting, March 29, 1895, pp. 28-29, Union and Jordan, 1877, Union and Jordan Company Records, Archives, USU.

<sup>35</sup>Book with the following on the outside: "Stockholder Mtng Minutes-1895-1916." Inside the title reads: "The Union & Jordan Irrigation Company, 1895, Stock-holders Record," (hereinafter: Stockholders, 1895-1916," pp. 1-2, Union and Jordan Ditch Records, USU.

<sup>36</sup>On the development of beet sugar in Utah, of the Bothwell company, and of its subsequent sale to the Utah-Idaho Sugar Company see Leonard J. Arrington, Beet Sugar in the West: A History of the Utah-Idaho Sugar Company, 1891-1966 (Seattle: University of Washington Press, 1966). On the Amalgamated Sugar Company see J. R. Backman, Story of the Amalgamated Sugar Company, 1897-1961 (Caldwell, ID: Caxton Printers, 1962).

<sup>37</sup>"Stockholders, 1895-1916," p. 5, Union and Jordan Ditch Records, USU.

<sup>38</sup>Meeting of February 24, 1896, Stockholders, 1895-1916, p. 11, Union and Jordan Ditch Records, USU.

<sup>39</sup>Stockholders meeting of June 26, 1916, pp. 3-6, Book entitled: Stockholder Meeting Minutes, June 26, 1916 to 1928, Directors Meeting Minutes, June 30, 1916 to [blank], (Hereinafter Minutes, 1916-28), Union and Jordan Ditch Records, USU.

<sup>40</sup>Meeting of February 23, 1903, the exchange of water from Little Cottonwood Creek with the Despain Ditch for water in the East Jordan Canal. Stockholders, 1895-1916, p. 42, Union and Jordan Ditch Records, USU.

<sup>41</sup>Salt Lake City, et. al. v. Salt Lake Water & Electrical Power Co., et. al Civil Suits No. 2861, 3449, and 3459, Decree of July 15, 1901, copy in <http://nrwrt1.nr.state.ut.us/cgi-bin/docview.exe?Folder=DECREE000001>.

<sup>42</sup>Meetings of September 28, October 12, and October 19, 1905, Stockholders, 1895-1916, pp. 47-49, Union and Jordan Ditch Records, USU.

<sup>43</sup>Meetings of February 26, 1912, March 6, 1914, Stockholders, 1895-1916, pp. 65, 77, Union and Jordan Ditch Records, USU.

<sup>44</sup>Stockholders, 1895-1916, 97-99, 105; Stockholders meeting of February 28, 1916, Board Meetings of May 24, 1916. Stockholders meetings of June 26, 1916, February 6 and 17, March 16, 28, May 22, 1917, pp. 1-15, 22-25, Board meetings of July 16, June 30, September 26, 27, October 13, 1916, February 17, 1917, "Stockholder Meeting Minutes, June 26, 1916 to 1928, Directors Meeting Minutes, June 30, 1916 to [blank]," (hereinafter Minutes, 1916-28), Union and Jordan Ditch Company Records, USU.

<sup>45</sup>Meeting of April 3, 1914, Stockholders, 1895-1916, p. 80, Union and Jordan Ditch Records, USU.

<sup>46</sup>Board Meeting of May 1, 1915, Stockholders, 1895-1916, p. 90, Union and Jordan Ditch Records, USU.

<sup>47</sup>Stockholders, 1895-1916," p. 5, Union and Jordan Ditch Records, USU. In 1896, as an

emergency measure the company agreed to rent additional water to the smelter. *ibid.* Meeting of February 24, 1896, pp. 10-11.

<sup>48</sup>Minutes, 1916-28, 33, and 39-40, Board Meeting of March 2, 1918, Stockholders Meeting of February 25, 1918, Union and Jordan Ditch Records, USU.

<sup>49</sup>Minutes, 1916-1928, Biennial meeting of February 27, 1922, Union and Jordan Ditch Records, USU.

<sup>50</sup>This story is based on: A. J. Simmonds, "Water for the Big Range," Utah Historical Quarterly 39 (Summer 1971): 224-237.

<sup>51</sup>The best history of Utah International is an unpublished manuscript written by Sterling Sessions, copy in the possession of the manuscript's author.

<sup>52</sup>On the Strawberry Valley Project see Thomas G. Alexander, "An Investment in Progress: Utah's First Federal Reclamation Project, the Strawberry Valley Project," Utah Historical Quarterly 39 (September 1971): 286-304.

<sup>53</sup>"Articles of Incorporation of the Salem Irrigation and Canal Company, March 19, 1903," Salem Irrigation and Company Papers, 1866-1979, Manuscripts and Archives Department, Harold B. Lee Library, Brigham Young University, Provo, UT (hereinafter Salem Irrigation Company, BYU)

<sup>54</sup>Board Meeting Minutes, February 26, April 23, June 22, October 2, November 10, 1904; June 15, 1909, September 22, 1917, "Salem Irrigation & Canal Co. Record Book [1900-1931] (hereinafter cited as Record Book, 1900-1931), Salem Irrigation Company, BYU.

<sup>55</sup>Stockholders meeting, February 10, 1906, Salem Irrigation Company, BYU.

<sup>56</sup>Board Meeting Minutes, April 18, 1908, Record Book, 1900-1931, Salem Irrigation Company, BYU.

<sup>57</sup>Board Meeting Minutes, October 12, 1908, March 27, May 4, 1909, Record Book, 1900-1931, Salem Irrigation Company, BYU.

<sup>58</sup>Board Meeting Minutes, dated December 28, 1915, but probably 1914, January 16, 1915,

July 13, 1918, Record Book, 1900-1931, Salem Irrigation Company, BYU.

<sup>59</sup>Board Meeting Minutes, August 9, December 27, 1919, Record Book, 1900-1931, Salem Irrigation Company, BYU.

<sup>60</sup>“Report of Committee to the Stockholders of the Salem Irrigation and Canal Company,” and Resolution of the Stockholders of the company, pp. 170-71, Salem Irrigation Company Minutes, 1919,

<sup>61</sup>Stockholders Meeting Minutes, February 21, 1920, Record Book, 1900-1931, Salem Irrigation Company, BYU.

<sup>62</sup>Strawberry Water Users Meeting, June 21, 1920, May 29, 1925, Record Book, 1900-1931, Salem Irrigation Company, BYU.

<sup>63</sup>Board meetings of February 5, March 7, April 19, December 6, 1929 and March 10, 1931. Record Book, 1900-1931, Salem Irrigation Company, BYU.

<sup>64</sup>Board Meeting, May 6, 1922, Record Book, 1900-1931, Salem Irrigation Company, BYU.

<sup>65</sup>Board Meeting of March 15, 1921, May 6, 1922, Board Meetings of May 20, August 22, December 1, 1924, Record Book, 1900-1931, Salem Irrigation Company, BYU.

<sup>66</sup>Board Meeting of September 5, 1928, Record Book, 1900-1931, Salem Irrigation Company, BYU.

<sup>67</sup>Alexander, “An Investment in Progress,” 301.